

CLAIMS

What is claimed is:

1. An archery bow, comprising:
a handle with first and second ends;
5 a first limb with a proximal end connected to said first end of said handle and a distal end carrying an eccentric cam element;
a second limb with a proximal end connected to said second end of said handle and a distal end carrying multiple idler wheels, mounted to permit independent pivoting of each said wheel;
10 a bowstring element operably associated with said cam element and wheels such that when said string is pulled to pivot said cam element, said wheels are caused to pivot at different rates of angular displacement.
2. An archery bow according to claim 1, wherein said bowstring element is
15 constructed and arranged such that said wheels are caused to rotate in different directions when said bowstring element is pulled.
3. An archery bow according to claim 2, wherein the distal end of said
second limb carries a pair of idler wheels, including a first idler wheel and a second idler
20 wheel.
4. An archery bow according to claim 3, wherein said first and second idler
wheels are of substantially similar configuration.
- 25 5. An archery bow according to claim 3, wherein said first and second idler
wheels carry guide tracks of substantially similar configuration.
6. An archery bow, comprising:
a handle with first and second ends;

a first limb with a proximal end connected to said first end of said handle and a distal end;
a second limb with a proximal end connected to said second end of said handle and a distal end;
5 a cam element operably associated with one of said limbs;
a pair of idler wheels, including a first idler wheel and a second idler wheel, operably associated with the other of said limbs; and
a bowstring element operably associated with said cam element and wheels such that
when a portion of said bowstring element is pulled to pivot said cam element, said
10 wheels are caused to pivot at different rates of angular displacement.

7. An archery bow according to claim 6, wherein said first and second idler wheels are of substantially similar configuration.

15 8. An archery bow according to claim 6, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

9. An archery bow according to claim 6, wherein said bowstring element is constructed and arranged such that said wheels are caused to rotate in different directions
20 when said bowstring element is pulled.

10. An archery bow according to claim 9, wherein said first and second idler wheels are of substantially similar configuration.

25 11. An archery bow according to claim 9, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

12. An archery bow according to Claim 6, wherein said first limb is the lower limb of said bow; said second limb is the upper limb of said bow; said cam element is mounted to said lower limb and said wheels are mounted to said upper limb.

5 13. An archery bow according to claim 12, wherein said first and second idler wheels are of substantially similar configuration.

14. An archery bow according to claim 12, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

10 15. An archery bow according to claim 12, wherein said bowstring element is constructed and arranged such that said wheels are caused to rotate in different directions when said bowstring element is pulled.

15 16. An archery bow according to claim 15, wherein said first and second idler wheels are of substantially similar configuration.

17. An archery bow according to claim 15, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

20 18. An archery bow according to Claim 15, wherein said cam element is mounted to the distal end of said lower limb and said idler wheels are mounted to the distal end of said upper limb.

25 19. An archery bow according to claim 18, wherein said first and second idler wheels are of substantially similar configuration.

20. An archery bow according to claim 18, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

21. An archery bow according to claim 18, wherein said bowstring element is constructed and arranged such that said wheels are caused to rotate in different directions when said bowstring element is pulled.

5 22. An archery bow according to claim 21, wherein said first and second idler wheels are of substantially similar configuration.

23. An archery bow according to claim 21, wherein said first and second idler wheels carry guide tracks of substantially similar configuration.

10

24. An archery bow according to claim 6, wherein when said string is pulled to pivot said cam element, said wheels are caused to pivot in the same direction.

15 25. An archery bow according to claim 6, wherein said wheels are concentrically mounted for pivotal motion about a common axle.

26. An archery bow according to claim 6, wherein said cam element is a single-cam structure comprising a plurality of working surfaces that are configured and arranged operably to wind and unwind respective cooperating portions of said bowstring element as said cam element pivots, and wherein said working surfaces are caused to pivot at the same rate of angular rotation.

20